Spring 3-20-2018

Factors That Affect The Acceptance Of New Technologies In The Workplace: A Cross Case Analysis Between UK And Hong Kong

Dimitra Skoumpopoulou
d.skoumpopoulou@northumrbia.ac.uk

Adam Wong
spklwong@speed-polyu.edu.hk

Peggy Ng
sppeggy@speed-polyu.edu.hk

Man Fung Lo
mfklo@speed-polyu.edu.hk

TITLE: FACTORS THAT AFFECT THE ACCEPTANCE OF NEW TECHNOLOGIES IN THE WORKPLACE: A CROSS CASE ANALYSIS BETWEEN UK AND HONG KONG

Dimitra Skoumpopoulou
Newcastle Business School, Northumbria University
Email: d.skoumpopoulou@northumrbia.ac.uk
Adam K.L. Wong
School of Professional Education and Executive Development, The Hong Kong Polytechnic University
Email: spklwong@speed-polyu.edu.hk
Peggy M. L. Ng
School of Professional Education and Executive Development, The Hong Kong Polytechnic University
Email: sppeggy@speed-polyu.edu.hk
Man Fung LO
School of Professional Education and Executive Development, The Hong Kong Polytechnic University
Email: mfklo@speed-polyu.edu.hk

Abstract

The introduction of a new IT application within an organisation represents change, and the acceptance of such change starts with the individual end users since they are the ones that often resist the newly introduced IT. This research identifies the factors that affect the acceptance of new technologies in the workplace in order to understand better how end-users can influence the successful introduction of IT in academic institutions. We use one Higher Education Institution (HEI) in Hong Kong and one HEI in the UK in order to gather our data and cross analyse the differences between the two countries. Our research shows that the staff at both universities have a high Behavioral Intention (BI) to use new technologies. However, there is no significant difference between the two universities, which means that although there is a general difference in the Hofstede's cultural dimension scores between the two populations, these dimensions have no effect on the staff who works at these universities.

Keywords: technology acceptance, workplace, cross case analysis

1.0 Introduction

The introduction of new technology in an organisation provides a number of benefits such as sustainable competitive advantage, lower production and labour costs. This in turn adds value to products and services, and generally improves the business processes (Nguyen, Newby and Macaulay 2013). Technological changes are often driven by either an emphasis on improving

efficiency and business expansion, or a pressure to meet certain requirements from customers and industry standards (Nguyen, 2009). Nguyen et al (2013) referred to these drivers as part of an innovation decision process, where management and organisations assess the advantages and disadvantages of adopting the new technology.

According to Arasteh, et al. (2011), Information Technology (IT) on the one hand facilitates fast communication in organisations and on the other it automates business processes. They also state that technology reduces user's task through computerisation processes and allows the users to do their task differently. However, introducing new technologies in companies is not a straightforward task and companies often face a lot of resistance during the adoption of new systems. These challenges in the usage of IT in organisations have led to the investigation of how different individuals interact with the new technology in their work environment. This research will look into the factors that influence the acceptance of IT in academic institutions.

As Aubert et al (2008) argue the benefits from a new technology are not gained if organisations experience low utilisation by the intended users. Research (Lippert and Davis 2006; Sharma, 2013; Kim and Kankanhalli, 2009) suggests that when introducing new technologies, the acceptance of change starts within the individuals and this can be affected by the way they perceive how the new applications would affect their job performance. Also, Hidayanto and Ekawati (2010) concluded that the success of implementation would depend on user acceptance and use of the technology in an organisation. A major aspect of this research is to identify the various factors that affect the acceptance of new technologies in order to understand better how end-users can influence the successful introduction of IT in academic institutions.

Therefore, the main aim of this research is to investigate the factors that affect the acceptance of new technologies in a workplace by individual users. We are planning to use one Higher Education Institution (HEI) in Hong Kong and one HEI in the UK in order to gather our data. The main objectives of our research are:

- Examine the factors that influence IT acceptance in organisations
- Investigate an individual's attitude to IT

The paper is structured as follows. The literature discusses IT acceptance factors with a focus on aspects related to the role of individuals in technological change. The theoretical model and the hypothesis are also presented. The methodology section explains the methodology

that this study employs. Then the findings and discussion are discussed while the conclusion part summarises the main aspects of this research.

2.0 Literature

The introduction of a new IT application within an organisation represents change, and the acceptance of such change starts with the individual end users because they are the ones that may resist the newly introduced IT, due to fear of uncertainty or the complexity of the technology (Jiang, Muhanna and Klein, 2000; Davis, 1993). This may be as a result of fear of losing their job(s), and the fear that the new application may be difficult to learn. Resistance to new IT applications is viewed as the opposition of individuals to change, which is associated with the new technology implementation (Sharma, 2013; Kim and Kankanhalli, 2009). Therefore user acceptance is an important factor to consider in IT adoption, implementation and usage within the organisation because its usage will be determined by the level of user acceptance of the newly introduced IT (Lippert and Davis, 2006; Agarwal and Karahanna, 2000).

IT acceptance research has been built on theories, such as the Theory of Planned Behavior (TPB) (Taylor and Todd, 1995; Ajzen, 1985) and the Technology Acceptance Model (TAM) (Davis, 1989; Davis, Bangozi and Warshaw, 1989) in an effort to capture the individual acceptance and use of information technology in organisations. The common features among these models are the individual beliefs or perceptions towards the new technology, which influences their actual usage Behavior (Agarwal and Karahanna, 2000).

In particular, the TAM model was designed to predict the acceptance of technology usage and also to examine individual user's reaction towards a new application (Davis, 1993; Davis, Bangozi and Warshaw, 1989). More specifically, TAM predicts two factors, which affect individual usage behaviour, namely the perceived usefulness (PU) and the perceived ease of use (PEOU). PU refers to the situation where using a particular system enhances individual job performance whilst the PEOU represents when using a particular system by an individual is free of effort (Davis 1989; Davis, Bangozi and Warshaw, 1989). Individual beliefs influence attitudes towards the behavior, and the behavioral intention in turn influences the actual behavior to use the new technology within the organisation (Davis, Bangozi and Warshaw, 1989).

Though the TAM model is widely used in the IT literature, it has also been widely criticised by researchers. There are claims that the TAM theory lacks predictive power and lacks practical values (Chuttur, 2009). The TAM model was also criticised because it lacks the

adaptive nature in an IT changing environment and ignores the social influence in the IT implementation process (Bagozzi, 2007).

According to Burton-Jones and Hubona's (2005) study the original TAM belief construct such as PU and PEOU remains an important predictor in capturing individual system users acceptance. However, they claim that the two constructs remain incomplete predictors of systems usage behavior because they suggest self-identity and habits to impact individual intentions. Burton-Jones and Hubona (2005) point out that self-identity represents an important driver of behavior and therefore refers to it as individual conception of the self, which determines whether his behavior is consistent. While habits represent a consistent behavior and state that individuals behaviors are habitual in nature, their findings therefore suggested that individual acceptance and usage of technology can only be predicted with individual difference variables and these include staff seniority, age and education level.

Similarly, Bagozzi (2007) claimed that the TAM model failed to consider the importance of group, social and cultural aspects of technology acceptance. He emphasized that people do not act in isolation; rather they live in social environment where they relate with other peers, parents, members and other group. The group norms are also important aspect in technology acceptance as well as the individual differences between cultures. He further highlights that individuals from different cultures would react differently towards technology in terms of their individual emotions, motivations and cognitive (self-awareness of group membership) processes. He considers group, culture and social aspects of technology to be integrated in explaining individual decisions towards new technology.

This research takes into consideration the cultural and social aspects by looking into the differences between Hong Kong and UK by using Hofstede's cultural dimensions. According to Hofstede and Hofstede (2011), the culture of a country can be measured in five dimensions, namely, Power Distance, Individualism, Masculinity, Uncertainty Avoidance, and Long-Term Orientation. The difference between Hong Kong and the UK are the biggest in the Power Distance and Individualism dimensions.

In the Power Distance dimension, the scores for Hong Kong and the UK are 68 and 35 respectively (Itim International, 2017). Power Distance refers to the extent to which the less powerful members of institutions and organisations within a country expect and accept that power is distributed unequally (Hofstede and Hofstede, 2011). The much higher score means that people in Hong Kong believe that inequalities are acceptable and that individuals are influenced by formal authority, in contrast with the people in the UK. In terms of technology

acceptance, it means it is possible that if an employee in Hong Kong sees that their supervisors use a new technology, they are more likely to accept the same new technology.

In the Individualism dimension, the scores for Hong Kong and the UK are 25 and 89 respectively (Itim International, 2017). The low score of 25 for Hong Kong means it has a collectivist culture in which people prefer to maintain a harmonious relationship in a group and avoid conflicts. This can be described as personal relationships prevailing over tasks and company. In terms of technology acceptance, it means it is possible that if an employee in Hong Kong will not adopt a technology that ~~is~~ may upset the relationship with their colleagues, even if that employee may consider the technology as better for the task. These differences may play an important role in the adoption of technology in the respective societies. Therefore, there is a need to investigate the role of cross-cultural differences in adoption of new technologies and this research will cross analyse the findings in HK and the UK.

Furthermore, in order to overcome some of the shortcomings of TAM, Venkatesh et al. (2003) developed the Unified Theory of Acceptance and Use of Technology (UTAUT) model and identified various determinants such as behavioral intention to use IT (social influence, performance expectancy and effort expectancy), technology use (facilitating conditions and behavioral intention), and the contingencies (age, gender, voluntariness and experience). The study suggests behavioral intention determined by performance expectancy and the effect of behavioral intention to vary across individual characteristics such as age and gender. Effort expectancy on the other hand expected behavioral intention to vary across individual characteristics such as age and gender and to exact effect on different individual experience. Social influence was found to influence behavioral intention. This was contingent on individual characteristics such as age, gender, voluntariness and experience. The facilitating condition, such as the technical and organisation support to influence the behavioral intention on technology use, was also moderated by age and experience (Venkatesh and Zhange, 2010; Wong et al. 2013).

Venkatesh and Zhang (2010) examined technology adoption in two different cultures and integrated the UTAUT model to capture the employees' similarities and differences between U.S and China. Findings revealed that culture plays an important role in IT adoption between the two countries. This finding was due to the role of social influence, which varies across the two countries. We will further investigate the differences between UK and HK.

As a result of the importance of the acceptance of IT in organisations by individual end users, this research will further examine the factors that affect the successful IT acceptance in

academic institutions. The acceptance of IT remains a critical factor to any organisation's effort to initiate change because technology has the attributes to facilitate organisational change, which is driven by changes to implement new IT capabilities in an organisational setting.

The research framework is composed of five hypotheses, presented in Figure 1.

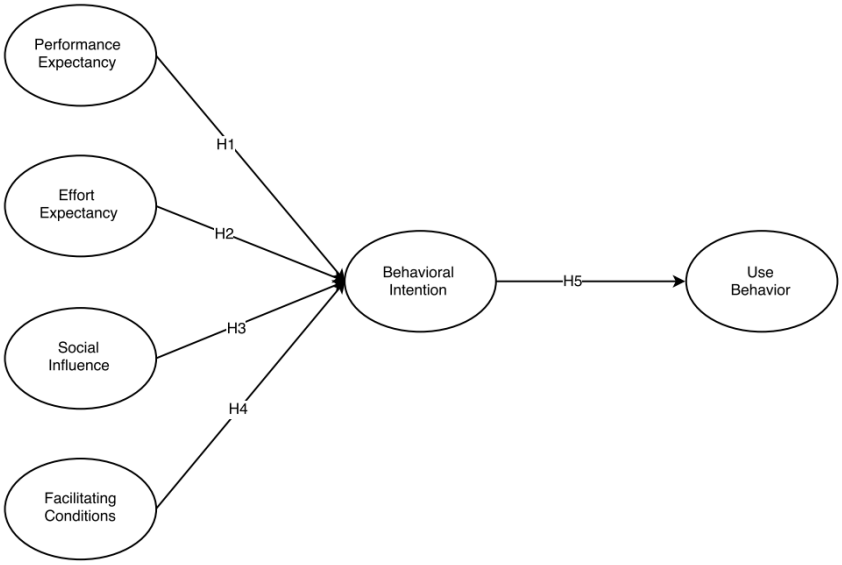

Figure 1: Research Framework

Hypothesis 1: Performance expectancy has a positive association with the Behavioral Intention to adopt new technologies in workplace.

Hypothesis 2: Effort expectancy has a positive association with the Behavioral Intention to adopt new technologies in workplace.

Hypothesis 3: Social influence has a positive association with the Behavioral Intention to adopt new technologies in workplace.

Hypothesis 4: Facilitating conditions has a positive association with the Behavioral Intention to adopt new technologies in workplace.

Hypothesis 5: The intention to adopt new technologies in workplace positively affects the actual adoption of new technologies in workplace.

3.0 Methodology

3.1 Measurement instruments

A set of measurement items in respect of technology adoption, workplace technology and the UTAUT model were adapted to the specific context of this study on the acceptance of new technologies in the workplace (Escobar-Rodríguez and Carvajal-Trujillo, 2014; Kijsanayotin, Pannarunothai and Speedie, 2009; Oye, Iahad and Rahim, 2014; Raman et al., 2014; Williams, Rana and Dwivedi, 2015; Yueh, Lu and Lin, 2016). As exhibited in the previous

section, there are in total six constructs, namely Performance Expectancy (4 items), Effort Expectancy (4 items), Social Influence (4 items), Facilitating Conditions (4 items), Behavioral Intention (3 items) and Use behavior. Also, a part was designed to collect the demographic details of respondents. Except Use Behavior, each item was measured by a 5-point Likert scale, anchored by 1 (strongly disagree) and 5 (strongly agree). Aligned with prior studies (Behrend, Wiebe, London and Johnson, 2011; Im, Hong and Kang, 2011), Use Behavior was measured by a 9-point Likert scale (have not used, once a year, once in six months, once in three months, once a month, once a week, once in 4–5 days, once in 2–3 days, almost every day). A pilot study was conducted to test the validity of the questionnaire.

3.2 Sampling and data collection

This study aims at providing insights on the acceptance of new technologies between two regions. Therefore, two universities (one from United Kingdom and one from Hong Kong, China) were invited to participate in this survey. The finalized questionnaire was published in an online survey platform and a QR code was prepared for respondents. An introduction email, together with the QR code, were sent to both academics and administrative staff in these two institutions. A friendly reminder email was sent one week after to remind the potential respondents. In total, there are 187 valid responses were used in the data analysis. Among the usable returns from this survey, 117 (63.9%) were collected from United Kingdom while 66 (36.1%) were completed by staff in Hong Kong. Other demographics details were tabulated in Table 1: Demographics Profile of Respondents.

Table 1: Demographics Profile of Respondents

Attributes	Categories	Percent (%)
Gender	M	38.92
	F	35.14
	Other / Transgender	0.54
Highest Education Level	Primary	1.08
	Secondary	2.70
	Bachelor	9.73
	Master	19.46
	Doctor	41.62
Age Group	Below 25	2.16
	25 – 34	15.14
	35 – 44	24.32
	45 – 54	19.46
	55 or above	13.51

3.3 Data Analysis

In this study, SPSS V23.0 and SmartPLS 3.0 were used to analyse the data collected from two regions. Descriptive statistics was obtained through the use of SPSS V23.0 package. To

analyse the relationship of multiple independent and multiple dependent variables in the research model, Structural Equation Modelling (SEM) was utilized. With the use of SmartPLS 3.0, the measurement model evaluation and structural model evaluation results are presented. First, Table 2: Descriptive Statistics of Measurement Items presents the description and descriptive statistics of each of the items and the constructs that they are intended to measure. The average of each measurement item ranges from 3.19 (SI3) to 3.96 (PE1). Moreover, the reliabilities of all constructs are greater than the minimum acceptable Cronbach's alpha level of 0.70, indicating internal consistency.

Table 2: Descriptive Statistics of Measurement Items

Constructs	Items	Descriptions	Mean	Standard deviation	Cronbach's alpha
Performance Expectancy (PE)	PE1	I would find the new technologies useful in my job.	3.96	0.80	0.875
	PE2	Using the new technologies enable me to accomplish tasks more quickly.	3.67	0.97	
	PE3	Using the new technologies increases my productivity.	3.64	1.00	
	PE4	If I use the new technologies, I will increase my chances of getting a better performance review rating.	3.34	0.96	
Effort Expectancy (EE)	EE1	It would be easy for me to become skillful at using the new technologies.	3.58	0.96	0.885
	EE2	I would find the new technologies easy to use.	3.35	0.96	
	EE3	Learning to use the new technologies is easy for me.	3.47	0.96	
	EE4	My interaction with the new technologies would be clear and understandable.	3.48	0.89	
Social Influence (SI)	SI1	People who influence my behavior think that I should use the new technologies.	3.50	0.88	0.713
	SI2	People who are important to me think that I should use the new technologies.	3.35	0.81	
	SI3	The senior management of my school has been helpful in the use of the new technologies.	3.19	0.94	
	SI4	In general, my school has supported the use of the new technologies.	3.82	0.91	
Facilitating Conditions (FC)	FC1	I have the resources necessary to use the new technologies.	3.59	0.88	0.712
	FC2	I have the knowledge necessary to use the new technologies.	3.49	0.88	
	FC3	Technical colleagues in my organization are available for assistance with system difficulty.	3.71	0.88	
	FC4	I think that the new technologies fits well with the way I like to work.	3.50	0.93	
Behavioral Intention	BI1	I intend to use the new technologies in the next 6 months.	3.95	0.71	0.943

(BI)	BI2	I predict I would use the new technologies in the next 6 months.	3.95	0.74	
	BI3	I plan to use the new technologies in the next 6 months.	3.86	0.77	

3.4 Measurement model evaluation

Based on the SmartPLS 3.0 result, the items' outer loadings, average variance extracted (AVE) and composite reliabilities (CR) were presented in Table 3: Assessment of the measurement model. First, the CR values obtained in this study ranged from 0.816 to 1.000 and these values are over the minimum acceptable limit of 0.70 (Gefen et al. 2011, Gefen, et al. 2000; Nunnally and Bernstein, 1994). Together with the result of Cronbach's alpha, the internal consistency reliability was considered as acceptable in this research. Second, the items' outer loadings and AVE values are used to examine the convergent validity. Hair, Ringle, and Sarstedt (2011) suggested that any items with loading below 0.4 should be removed. According to the result, all outer loadings are above 0.5. Third, the AVE values are between 0.816 (Facilitating Conditions) to 0.963 (Behavioral Intention) which are above the acceptable AVE value (0.5) (Fornell and Larcker, 1981). To sum up, convergent validity was exhibited in this study.

Table 3: Assessment of the measurement model

Constructs	Items	Loadings	AVE	CR
PE	PE1	0.856	0.916	0.732
	PE2	0.92		
	PE3	0.912		
	PE4	0.72		
EE	EE1	0.844	0.920	0.742
	EE2	0.868		
	EE3	0.866		
	EE4	0.868		
SI	SI1	0.683	0.820	0.533
	SI2	0.757		
	SI3	0.723		
	SI4	0.754		
FC	FC1	0.712	0.816	0.529
	FC2	0.778		
	FC3	0.588		
	FC4	0.812		
BI	BI1	0.948	0.963	0.897
	BI2	0.944		
	BI3	0.949		
UB	UB	1.00	1.000	1.000

Remarks: Cut-off values for: (1) CR: 0.7; (2) AVE: 0.5

Apart from convergent validity, this paper also reviewed the discriminant validity. Table 4: Discriminant Validity using Fornell-Larcker Criterion presents the results about the

discriminant validity of six constructs. The bolded numbers in the matrix diagonals refer to the square roots of the AVEs and these values are greater in all cases than the off-diagonal numbers in their corresponding row and column. As a result, this study exhibited discriminant validity.

Table 4: Discriminant Validity using Fornell-Larcker Criterion

Constructs	BI	EE	FC	PE	SI	UB
BI	0.947					
EE	0.391	0.862				
FC	0.401	0.653	0.728			
PE	0.458	0.640	0.587	0.856		
SI	0.325	0.343	0.508	0.462	0.730	
UB	0.251	0.036	0.061	0.097	-0.010	1.000

Notes: Boldface numbers on the diagonal are the square root of AVE values

3.5 Structural model evaluation

The structural model was presented in Figure 2: Structural modelling results. Performance Expectancy showed a positive influence on Behavioral Intention (H1: β=0.276; $p < 0.05$), H1 is supported. Secondly, a positive association between Behavioral Intention and Use Behavior was proven (H5: β=0.251; $p < 0.05$). Thus, H5 is supported. However, the impact of Effort Expectancy, Facilitating Conditions and Social Influence on Behavioral Intention are insignificant, H2, H3 and H4 are not supported. Table 5 summarizes the evaluation result of the structural mode.

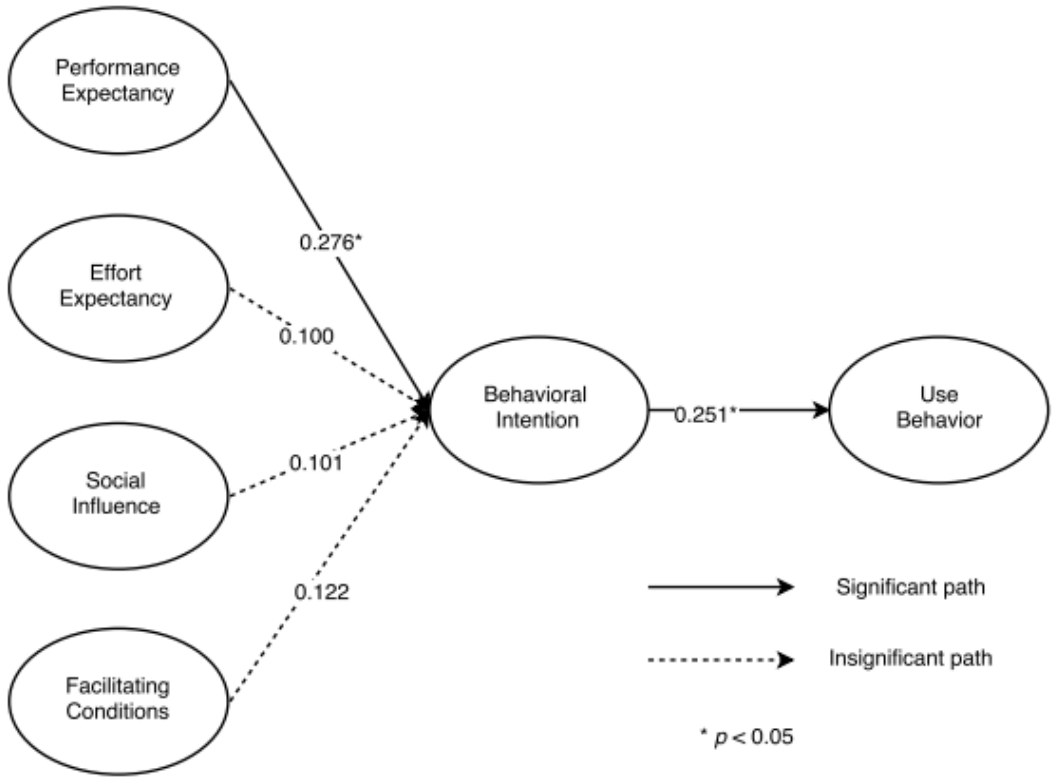

Figure 2: Results of structural model

Table 5: Structural modelling results

Hypothesis	Path Coefficient	t-value	p-value	Result
H1: Performance Expectancy -> Behavioral Intention	0.276	2.718	0.007*	Supported
H2: Effort Expectancy -> Behavioral Intention	0.100	1.040	0.298	Not Supported
H3: Social Influence -> Behavioral Intention	0.101	1.294	0.196	Not Supported
H4: Facilitating Conditions -> Behavioral Intention	0.122	1.215	0.224	Not Supported
H5: Behavioral Intention -> Use Behavior	0.251	2.907	0.004*	Supported

Notes: * Significant at the 0.05 level (2-tailed).

Table 6: The Difference of Use Behavior between Two Universities

	Value	df	Significance (2-sided)
Pearson Chi-Square	11.246a	8	.188
Likelihood Ratio	12.290	8	.139
Linear-by-Linear Association	5.007	1	.025
N of Valid Cases	130		

A Chi-squared test was conducted to test whether there is any significance between Use Behavior and university. As shown in Table 6, the p-value is 0.188 (which is greater than 0.05), hence there is no significance between the Use Behavior and the university at 5% level of significance.

4.0 Findings and Discussion

The data analysis section shows that only hypotheses H1 and H5 are supported. It also shows that the staff at both universities have a high Behavioral Intention (BI) to use new technologies. This section will review the constructs in the hypotheses and will discuss the possible explanations of the findings.

Since there is no significant difference between the two universities, this means that although there is a general difference in the Hofstede's cultural dimension scores between the two populations (Itim International, 2017), these dimensions have no effect on the staff who work at these universities. One possible explanation is that both universities have policies and the telecommunications infrastructure that encourage their staff to make frequent contacts with the international academic society. This in turn has created a culture that is unique to universities, but different from the general population within which the universities operate. There is a need to confirm this by measuring the scores in the cultural dimensions in the university context.

Since H1 is supported, it means that in both the UK university and HK university, the staff have a higher Behavioral Intention to use new technologies in the workplace if there is a higher performance expectancy (PE) associated with those new technologies. An interesting

observation is that among the four items that made up PE, item PE1 “I would find the new technologies useful in my job” has the highest score and smallest standard deviation. In contrast, PE4 “...I will increase my chances of getting a better performance review rating” has the lowest score and a higher standard deviation. This means that the staff in the universities are intrinsically motivated to use the new technologies that they think are useful to them.

Since H5 is supported, it means that in both the UK university and HK university, the staff have a higher Behavioral Intention to use new technologies in the workplace within 6 months. In fact, the BI construct has the highest average score, and the lowest standard deviation among all the constructs. This means the staff at these two universities do have the intention to use the new technologies, but only the PE construct contributes to the high BI in this study.

The hypotheses H2, H3 and H4 are not supported. This means that in both the UK university and HK university, the staffs’ Behavioral Intention to adopt new technologies is not positively associated with effort expectancy (EE), social influence (SI) and facilitating conditions (FC). This is despite the fact that all the items in these three constructs each have mean scores higher than “3”, which means “neutral” in our 5-point Likert scale, in which “5” means “Strongly Agree” and “1” means “Strongly Disagree”. A possible explanation is that the staff at these universities have high self-efficacy. With a high self-efficacy, they have a strong belief in their abilities to use new technologies successfully despite the extra effort in learning and becoming skilful with the new technologies. Furthermore, universities have a tradition of encourage independent and freethinking among its staff. Therefore, the staff are less likely to be influenced by other people. It is noted that SI3 “The senior management of my school has been helpful in the use of the new technologies” has the lowest score of 3.19 among all items in the questionnaire. This means that the senior management must not only support the use of new technologies, but also make their support clearly felt by the staff. This re-iterates the importance of senior management in the successful implementation of new technologies in organisations.

5.0 Conclusions – Next Steps

Organisations nowadays invest huge amounts of money on new technologies in an effort to become more efficient, more competitive and most importantly more profitable. However, a factor that often hinders the introduction and adoption of new technologies in the workplace is the resistance and attitude of the end users and the various employees who are supposed to use the new technologies. Often companies spend a lot of time, money and effort on new

technologies only to realise that their employees either do not use them. Although there is research that examines the factors that affect employees' behaviour towards new technologies ~~however~~, companies are still struggling with the successful introduction of IT while there is a lack of cross cultural studies that investigate whether certain countries are more or less successful in introducing new technologies. Therefore, this research is making a significant contribution in examining the factors that affect the acceptance of new technologies in the workplace through a cross case analysis between UK and Hong Kong HEIs.

Therefore, the main objectives of our research were to:

- Examine the factors that influence IT acceptance in organisations
- Investigate an individual's attitude to IT

Our study found that the staff have a higher Behavioral Intention to use new technologies in the workplace if they feel that the new technology will help them perform better in their jobs. In order to realise the importance and relevance of new technologies staff need to be appropriately educated of any new systems while senior management must be seen by their staff as supporting the use of new technologies. Also, we found that there is no significant difference between the two universities possibly because academic staff have frequent contacts with the international academic society. This might be the case because, although university staff might treat new technologies differently than in other sectors universities have a similar culture unique to the sector. However, this needs to be further investigated in future research in order to measure the scores in the cultural dimensions in the university context.

In addition, hypotheses H2, H3 and H4 are not supported in this research. This means that in both the UK university and HK university, the staffs' Behavioral Intention to adopt new technologies is not positively associated with effort expectancy (EE), social influence (SI) and facilitating conditions (FC). We believe that this might be the case due to the unique environment that universities operate in. HE institutions have a tradition of encouraging independent and freethinking among its staff. Therefore, the staff are less likely to be influence by their social environment. However, future research can further explore these factors by focusing on a more specific technology e.g. enterprise cloud computing.

Our research contributes in theory as well as in practice. From a theoretical perspective we are building on existing literature that has utilised the UTAUT model and we are providing a further understanding of the factors that can affect the acceptance of new technologies in organisations. From a practical perspective we believe that our findings can enable managers

and practitioners in organisations, especially in HE institutions, to be better equipped regarding the introduction of new technologies by allowing them to address those factors that could potentially hinder any new technology investment and therefore increase the acceptance and smooth adoption of IT.

6.0 References

Agarwal, R., and Karahanna, E. 2000. "Time Flies When You're Having Fun: Cognitive absorption and beliefs about information technology usage," *MIS Quarterly,* (24:4), pp. 665-694

Ajzen, I. 1985. "From Intentions to Actions; A Theory of Planned Behavior," in J. Kuhl and J.Beckmann (Eds). *Action Control: From Cognition to Behavior*, *New York: Springer-Verlage,* pp.11-39

Arasteh, A., Aliahmadi, A., Mahmoodi, H.S. and Mohammadpour, M. O 2011. "Role of information technology in business revolution," *Int J Adv Manuf Technol, 53*, pp.411-420

Aubert, B.A, Barki, H., Patry, M. and Roy, V. 2008. "A multi-level, multi-theory perspective of information technology implementation*," Information Systems Journal, (*18), pp. 45-71.

Bagozzi, R.P. 2007. "The legacy of the technology acceptance model and a proposal for a paradigm shift," *Journal of the Association for Information Systems, (8:4),* pp.244-254.

Behrend, T. S., Wiebe, E. N., London, J. E. and Johnson, E. C. (2011). Cloud computing adoption and usage in community colleges. *Behavior and Information Technology*, *30*(2), 231-240.

Burton-Jones, A. and Hubona, G. 2005. "Individual differences and usage Behavior: Revisiting a technology acceptance model assumption," *The DATA BASE for Advances in Information Systems, (36:*2), pp.58-77.

Chuttur, M.Y. 2009. "Overview of the Technology Acceptance Model: Origins, developments and future directions*," Working papers on Information Systems, (9*:36), pp.9-37

Davis, F.D. (1993). "User acceptance of information technology: system characteristics, user perceptions and Behavioral impact," *Int. J. Man-Machine Studies, (38)*, pp.475-487

Davis, F.D. 1989. "Perceived usefulness, perceived eased of use and user acceptance of information technology," *MIS Quarterly, (13*:3), pp.318-339

Davis, F.D., Bagozzi, R.P. and Warshaw, P.R. 1989. "User acceptance of information technology: A comparison of two theoretical models," *Management science, (35*:8), pp.982-1003

Escobar-Rodríguez, T. and Carvajal-Trujillo, E. (2014). Online purchasing tickets for low cost carriers: An application of the unified theory of acceptance and use of technology (UTAUT) model. *Tourism Management*, *43*, 70-88.

Fornell, C., and Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*. 39-50.

Gefen, D., Straub, D. W. and Boudreau, M. C. (2000). Structural equation modeling and regression: guidelines for research practice. *Communications of the Association for Information Systems*, 4(7), 1-70.

Gefen, D., Straub, D. W., and Rigdon, E. E. 2011. "An update and extension to SEM guidelines for admnistrative and social science research," *Management Information Systems Quarterly*, (*35*:2), pp. iii-xiv.

Hair, J. F., Ringle, C. M. and Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. *Journal of Marketing Theory and Practice*. *19*(2), 139-152.

Hidayanto, A.N. and Ekawati, R.K. 2010. "The influence of Antecedent Factors of IS/IT Utilization Towards Organisational Performance: A case study of IAIN Raden Fatah Palembang," in *Proceeding 3rd International Conference on ICT4M.* Indonesia: pp.40-47.

Hofstede, G. and Hofstede, J. 2011. *Cultures and organizations: software of the mind*, New York: McGraw Hill Professional

Im, I., Hong, S. and Kang, M. S. 2011. "An international comparison of technology adoption: Testing the UTAUT model," *Information and Management*, (*48*:1), pp. 1-8.

Itim International. 2017. "What about Hong Kong?" Retrieved 29 April 2017, from https://geert-hofstede.com/hong-kong.html

Jiang, J.J., Muhanna, W.A. and Klein, G. 2000. "User resistance and strategy for promoting acceptance across system types," *Journal of Information and Management (37)*, pp.25-36.

Kijsanayotin, B., Pannarunothai, S. and Speedie, S. M. 2009. "Factors influencing health information technology adoption in Thailand's community health centers: Applying the UTAUT model," *International Journal of Medical Informatics*, (*78*:6), pp. 404-416.

Kim, H. and Kankanhalli, A. 2009. “Investigating user resistance to information systems implementation: A status quo bias perspective,” *Mis Quarterly, (33*:3), pp.567-567.

Lippert, S.K. and Davis, M. 2006. “A conceptual model integrating trust into planned change activities to enhance technology adoption Behavior,” *Journal of Information Science, (32:*5), pp.434-448.

Nguyen, T., 2009. “Information technology adoption in SMEs: An integrated framework,” *International Journal of Entrepreneurial Behavior and Research (15:2),* pp.162-186.

Nguyen, T., Newby, M. and Macaulay, M. 2013**. “**Information technology adoption in small businesses: Confirmation of a proposed framework,” *Journal of Small Business Management.*

Nunnally, J. C. and Bernstein, I. H. (1994), *Psychometric theory*. New York: McGraw-Hill

Oye, N. D., Iahad, N. A. and Rahim, N. A. (2014). The history of UTAUT model and its impact on ICT acceptance and usage by academicians. *Education and Information Technologies*, *19*(1), 251-270.

Raman, A., Don, Y., Khalid, R., Hussin, F., Omar, M. S. and Ghani, M. (2014). Technology acceptance on Smart Board among teachers in Terengganu using UTAUT model. *Asian Social Science*, *10*(11), 84.

Sharma, D. 2013. “Resistance to Human Resource Information Systems (HRIS)-Problem Recognition, Diagnosis and Positive Intervention A Study on Employee Behavior and Change Management,” *Indian Journal of Applied Research, (3:*1), pp.99-104.

Taylor, S. and Todd, P.A. 1995. “Understanding information technology usage: A test of competing models,” *Information Systems Research, 6*(2), pp.144-176.

Venkatesh, V. and Zhange, X. 2010. Unified Theory of Acceptance and Use of Technology: U.S. Vs. China. *Journal of Global Information Technology Management, 13*(1), pp.5-27.

Venkatesh, V., Morris, M. G., Davis, G. B. and Davis, F. D. 2003. User acceptance of information technology: towards a unified view,” *MIS Quarterly (27*:3), 425-478.

Williams, M. D., Rana, N. P. and Dwivedi, Y. K. (2015). The unified theory of acceptance and use of technology (UTAUT): a literature review. *Journal of Enterprise Information Management*, *28*(3), 443-488.

Wong, K. T., Teo, T. and Russo, S. 2013. “Interactive whiteboard acceptance: Applicability of the UTAUT model to student teachers,” *The Asia-Pacific Education Researcher*, (*22*:1), pp. 1-10.

Yueh, H. P., Lu, M. H. and Lin, W. (2016). Employees' acceptance of mobile technology in a workplace: An empirical study using SEM and fsQCA. *Journal of Business Research*, *69*(6), 2318-2324.